

25016
On linear estimation theoryS/052/61/006/002/003/006
C111/C222

The author uses the notation $E_\alpha(\cdot) = \int(\cdot)dP_\alpha$. He seeks best linear unbiased estimates for linear functionals θ defined on $\alpha \in A_m$:

$$\theta = \theta(\alpha) = \sum_{y=1}^m c_y \alpha_y , \quad (2.3)$$

where c_1, \dots, c_m are real or complex numbers. The space of all θ (for different $c = (c_1, c_2, \dots, c_m)$) is denoted by A_m^+ . The linear functionals θ are called parameters.

The problem can be defined more general as follows : Try to estimate a random variable y so that for $\theta \in A_m^+$ it holds

$$E_\alpha y = \theta(\alpha) , \quad (\alpha \in A_m) , \quad (2.4)$$

and that the variance of y and the covariances of y and x_t , $t \in T$, are independent of $\alpha \in A_m$. A random variable v is called an unbiased estimate of y if

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$$\mathbb{E}_\alpha v = \theta(\alpha), \quad (\alpha \in A_m) \quad , \quad (2.5)$$

and a best unbiased estimate of y if, under the restriction of (2.5), $\mathbb{E}_0|v - y|^2$ is a minimum. The estimates are chosen in the class of statistics which either are finite linear combinations of random variables x_t , $t \in T$ or are in-mean-limits of such combinations. Let M denote the set of all finite linear combinations $x = \sum c_j x_{t_j}$. Let $P_1(\cdot)$ be a probability distribution which dominates over all the distributions $P_\alpha(\cdot)$ in the following sense : For any $\alpha \in A_m$ there exists a finite constant K_α so that

$$\mathbb{E}_\alpha |x|^2 \leq K_\alpha \mathbb{E}_1 |x|^2 \quad (x \in M) \quad , \quad (2.6)$$

where K_α is independent of $x \in M$. Let \mathcal{M} be the set of in-mean-limits via $P_1(\cdot)$. The set \mathcal{M} in which the random variables with $P_1(x=y)=1$ are considered as identical and an inner product is introduced, $[x,y] =$

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$E_1 xy$ ($x \in \mathcal{M}$) forms a Hilbert space \mathcal{M}_1 . The set \mathcal{M}_1 will represent the class of admissible linear estimates.

Let A_p denote the p-dimensional linear subspace of A_m consisting of the α for which it holds

$$\sum_{y=1}^m \alpha_y \varphi_{yt} = 0 \quad (t \in T) \quad (3.1)$$

(3.1) is equivalent with

$$E_\alpha x = 0 \quad (x \in \mathcal{M}_1) \quad (3.2)$$

Let A_q be a subspace of A_m consisting of those α for which there exists a finite constant K_α so that

$$E_\alpha |x|^2 \leq K_\alpha E_0 |x|^2 \quad (x \in \mathcal{M}_1) \quad (3.3)$$

is valid. It holds $0 \leq p \leq q \leq m$, $A_p \subset A_q$.

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A $\theta \in A_m^+$ for which a linear unbiased estimate exists is called estimable.
A $\theta \in A_m^+$ for which a linear unbiased estimate with variance zero exists is called exactly estimable.

Theorem 3.1. A parameter $\theta \in A_m^+$ is estimable if, and only if, $\theta(\alpha) = 0$ for $\alpha \in A_p$, i.e. for all the α 's satisfying (3.2). The estimable θ 's form a linear subspace A_{m-p}^+ of dimension $m-p$.

A parameter $\theta \in A_{m-p}^+$ is exactly estimable if, and only if, $\theta(\alpha) = 0$ for $\alpha \in A_q$, i.e. for all the α 's satisfying (3.3). The exactly estimable θ 's form a linear subspace A_{m-q}^+ of dimension $m-q$.

Each estimable parameter θ possesses a unique best linear unbiased estimate. The class of the best linear unbiased estimates forms an $(m-p)$ -dimensional linear subspace of M_1 , say W , and this subspace consists of random variables $w_\alpha \in M_1$, $\alpha \in A_m$, uniquely determined by

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the relations

$$E_{\alpha}x = E_1 x \bar{w}_{\alpha} \quad (x \in \mathcal{M}_1) \quad . \quad (3.4)$$

The relation between a parameter $\theta \in A_{m-p}^+$ and its best linear unbiased estimate v^θ is given by the equation

$$\theta = \sum_{y=1}^m \alpha_y E_1 (v^\theta \bar{w}_{y_1}) \quad (3.5)$$

where \bar{w}_{y_1} , $1 \leq y \leq m$, are uniquely determined by the relation:

$$E_{y_1}x = E_1 x \bar{w}_{y_1} \quad (x \in \mathcal{M}_1) \quad (3.6)$$

Theorem 3.2. Suppose that $E_{\alpha}y = \theta(\alpha)$ is estimable and denote the projection of y on \mathcal{M}_1 by y_1 . Then

$$\theta_1(\alpha) = E_{\alpha}(y - y_1) \quad (3.17)$$

is also estimable and the best linear unbiased estimate of y say \hat{y} , exists, is unique, and equals

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$$\hat{y} = y_1 + \hat{\theta}_1 \quad (3.18)$$

where $\hat{\theta}_1$ is the best linear unbiased estimate of θ_1 . It holds that

$$E_o|y - y|^2 = E_1|y - y_1|^2 + E_1|\theta_1|^2. \quad (3.19)$$

If (3.3) is satisfied for all $\alpha \in A_m$ (regular model) then the P_o -distribution may serve as the dominating distribution. The set of in-mean-limits via $P_o(\cdot)$ coincides with the set \mathcal{M} . The set \mathcal{M} in which random variables with $P_o(x=y)=1$ are considered as identical and the inner product

$$[x, y] = E_o xy \quad (4.1)$$

is introduced, is a Hilbert space \mathcal{M}_o . The mean values $E_\alpha x$ are linear functionals on \mathcal{M}_o so that for any $\alpha \in A_m$ there exists a $v_\alpha \in \mathcal{M}_o$ so that

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$$E_{\alpha} x = E_0 x \bar{v}_{\alpha} \quad (x \in \mathcal{M}_0) \quad (4.2)$$

and the class $V = \{v_{\alpha}, \alpha \in A_m\}$ represents the class of all best linear unbiased estimates of estimable parameters $\theta \in A_{m-p}^+$. It holds

$V = W$ but in general $v_{\alpha} \neq w_{\alpha}, \alpha \in A_m$.

Theorem 4.1. If the model is regular, then a random variable $v^{\theta} \in V$ determined by (4.2) is the best linear estimate for

$$\theta = \sum_{y=1}^m \alpha_y E_0 (v^{\theta} v_{y1}) \quad (4.3)$$

where $v_{y1}, 1 \leq y \leq m$, are determined by

$$E_{y1} x = E_0 x \bar{v}_{y1} \quad (x \in \mathcal{M}_0) \quad (4.4)$$

The best linear unbiased estimate of the random variable y , considered in theorem 3.2, equals

$$\hat{y} = y_0 + \hat{\theta}_0 \quad (4.5)$$

where y_0 is the projection of y on \mathcal{M}_0 and $\hat{\theta}_0$ is the best linear

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estimate of

$$\theta_0(\alpha) = E_\alpha(y - y_0).$$

It holds that

$$E_0|y - y|^2 = E_0|y - y_0|^2 + E_0|\hat{\theta}_0|^2. \quad (4.6)$$

Theorem 4.2. Suppose that no $\alpha \neq (0, \dots, 0)$ fulfills the relation (3.2), i.e. that the functions φ_{yt} , $1 \leq y \leq m$ are linearly independent. Introduce the matrix

$$D = \|E_0 v_{y1} \bar{v}_{\mu 1}\|_{y, \mu=1}^m \quad (4.8)$$

where v_{y1} are determined by (4.4), and denote the best linear estimates of $\alpha_1, \dots, \alpha_m$ by $\hat{\alpha}_1, \dots, \hat{\alpha}_m$.

Then

$$\begin{bmatrix} \hat{\alpha}_1 \\ \vdots \\ \hat{\alpha}_m \end{bmatrix} = D^{-1} \begin{bmatrix} v_n \\ \vdots \\ v_{m-1} \end{bmatrix} \quad (4.9)$$

and

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$$\| E_0 \hat{\alpha}_y \hat{\alpha}_\mu \|_{y, \mu=1}^m = D^{-1} \quad (4.10)$$

Best linear estimates of parameters $\theta = \sum c_y \alpha_y$ equal $\hat{\theta} = \sum c_y \hat{\alpha}_y$.

Three examples are considered. The author mentions A.M. Yaglom. He thanks Professor A.N. Kolmogorov for aid. There are 5 Soviet-bloc and 4 non-Soviet-bloc references. The references to the two English-language publications read as follows : L.A. Zadeh and J.R. Ragazzini, An extension of Wiener's theory of prediction. Journ.Appl. Physics, 21 (1950), 645-655. M. Blum, Generalization of the class of nonrandom inputs of the Zadeh - Ragazzini prediction model, IRE Trans.Inform.theory, IT-2 (June 1956), 76-81.

SUBMITTED: September 19, 1960

Card 10/10

HAJEK, J. (Praha)

Concerning relative accuracy of stratified and systematic sampling in
a plane. Col math 8 no.1:133-134 '61. (EEAI 10:5)

(Probabilities)

(Sampling (Statistics))

(Distribution (Probability theory))

2/026/62/007/006/001/005
D234/D308

AUTHOR: Hájek, Jaroslav

TITLE: Minimization of costs with desired accuracy reached simultaneously in several estimations

PERIODICAL: Aplikace matematiky, v. 7, no. 6, 1962, 405-423

TEXT: The author deals with the problem considered by T. Dalenius (Sampling in Sweden, Almqvist and Wiksell, Stockholm, 1957), and reduces it to

$$\sum_{h=1}^H \left(\sum_{j=1}^J a_{jh} p_j^0 \right)^{1/2} = \max_{p_1, \dots, p_J} \sum_{h=1}^H \left(\sum_{j=1}^J a_{jh} p_j \right)^{1/2} \quad (3.2)$$

where

$$p_j \geq 0, \quad \sum p_j = 1, \text{ and}$$

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$$a_{jh} = \frac{c_h d_{jh}}{b_j + d_{j0}} \quad (1 \leq j \leq J, 1 \leq h \leq H) \quad (3.3)$$

Then the minimizing values of $r_1, r_2 \dots r_H$ are

$$r_h^0 = \frac{1}{c_h} \left(\sum_{j=1}^J a_{jh} p_j^0 \right)^{1/2} \sum_{k=1}^H \left(\sum_{j=1}^J a_{jk} p_j^0 \right)^{1/2} \quad (1 \leq h \leq H) \quad (3.1)$$

Conditions for determining the values of j such that $p_j = 0$ are given, The special case

$$d_j = \frac{d_j}{r_j} - d_{j0} \quad (1 \leq j \leq H) \quad (6.1)$$

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$$D_0 = \sum_{j=1}^H D_j = \sum_{j=1}^H \frac{d_j}{r_j} - d_0 \quad (6.2)$$

is considered in detail. A numerical example is given, and connections with the theory of games are stated. A method of solution is described for the case when the costs are nonlinear in r_h . There are 2 tables.

SUBMITTED: September 30, 1961

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"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617820005-2

HAJEK, Jaroslav, DrSc.

Report on the trip of Jaroslav Hajek to the United States,
Cas pro pest mat 89 no.1;127 F '64.

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617820005-2"

HAJEK, J.

The conditions of rectification. p. 39.
(ELEKTROTECHNICKY OBZOR., Vol. 42, no. 1, Jan. 1953, Czechoslovakia)

SO: Monthly List of East European Accessions, Vol 2 #8, Library of Congress,
August 1953, Uncl.

BLUMKA, J.

Remarks on Chra, and Rehn's article "Electronic regulation of Direct-Current Voltage". p.188

SLAVOHOUDY OBZOR. Vol. 14, No. 4, April 1954. Prague.

SO: Monthly List of East European Accessions (EEL) L1, Vol. 5, no. 6, June 1956, Uncl.

HAJEK, J.; CHALUPA, Z.

"Measuring on the cathode-ray oscilloscope." p. 299

SDELOVACI TECHNIKA. Praha, Czechoslovakia, Vol. 3, No. 10, Oct., 1955

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September, 1959
Unclassified

HAJEK, J.

Voltage shock wave analogue generator. p. 579.
SLABOPROUDY OBZOR, Prague, Vol. 16, no. 11, Nov. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6, June 1956,
Uncl.

✓ 150. *25* OSCILLOSCOPE WITH A BUILT-IN ELECTRONIC
SWITCH. J. Rilek.

filed
Slobozryd 6620r, Vol. 17, No. 3, 167-74 (1966). In Czech.
The instrument is furnished with two identical d.c. amplifiers having a bandwidth of 60 kc/s and maximum sensitivity of 15 mV/cm. The amplifiers are provided with RC input attenuators, such that the input impedance varies from 1 to 0.8 megohms. Symmetrical outputs of the amplifiers are applied to the vertical plates of the c.r.o. by means of an electronic switch, which is driven by an astable multivibrator operating at frequencies of 30 c/s to 3 kc/s. The horizontal c.r.o. plates are asymmetrical and are operated by a modified Puckle time base. A special time-base synchronizing circuit is provided. Diagrams of some of the circuits employed are given. *R. S. Bidwell/CSA*

HAKAN, J.; CHALUPA, Z.; PROCHAZKA, I.

A few problems of special cathode-ray oscilloscopes. p. 349.
(SLABOPROUDY OBZOR, Vol. 17, No. 6, June 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EXAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

HAYER, J.

RECORDED IN THE REEDEN PHASE IN OSCILLOSCOPES 621-017-7-5
Soviet Phys. Opt., Vol. 17, No. 6, 469-74 (1966). In these...
It is found that in certain commercial oscilloscopes, the
brightness of the writing trace is non-uniform, the effect being
most pronounced at the low and high repetition frequencies of
the time base. Analysis of the time-base circuit and the associated
return-sweep suppression circuit shows that the effect is mainly due
to the small value of the coupling capacitor (at low frequencies)
and to the large stray capacitances (at upper frequencies). It
is shown that the effect can be eliminated by:
(1) employing a large coupling capacitor, (2) reducing the time con-
stants associated with the stray capacitances, (3) employing compen-
sation marks at high frequencies, and also (4) reducing the dura-
tion of the return sweep.
R.S.Udorowicz

HAJEK, JAROSLAV

CZECHOSLOVAKIA / Radiophysics, Radio Measurements.

I-7

Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12597

Author : Hajek Jaroslav, Jirku Jaroslav

Inst : Power Institute, Brno, Czechoslovakia

Title : Investigation of Pulse Processes with the Aid of the "Anal-
logen."

Orig Pub : Elektrotehn. obzor. 1956, 45, No 10, 504-510

Abstract : Description of the construction and possible application of a
new generator with impact excitation, called by the author
the "analogon". It is indicated that this generator is
most advantageously used for the investigation of transient
phenomena in power systems.

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MAJER J.

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19470. RECORDING OF SOME SURGE WAVES CHARACTERISTICS WITHOUT OSCILLOGRAPHIC APPARATUS

Electrotech. Oboz, Vol. 46, No. 12, 117-61 (1960). In Czech.

A prototype electronic apparatus for the recording of impulse characteristics is described. It is claimed that it may be applied to greater advantages for the measurement of surge characteristics, not exceeding 8-shaped surges, than the usual method of using cathode-ray oscilloscopes. The measurements are only relative, and the apparatus can only record if the surge wave lasts for a definite interval, e.g., if set between 1.8 and 2.1 μ sec, it will not record transients lasting less than 1.8 μ sec or more than 2.1 μ sec. A whole range of instruments would have to be provided in order to measure a longer range. The problem of intermittent measuring of surge characteristics by means of delay lines to provide greater accuracy, is not solved by the design.

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H4JEK, 5.

1923 MEASUREMENTS ON SINGLE PULSES. J. Hirschfelder.
Slabopriody Obrav. Vol. 10, No. 4, 91-9 (1967). Declassified

Several methods of measurement of the amplitude and duration of the pulses of a given shape are evaluated, and the description and theory of an instrument for the measurement of microsecond pulses are given. The method of measurement is based on the principle of pulse stretching which is performed in a cathode-follower circuit, whose output is fed through a diode to a three-diode RC network. Output of this network is applied to another cathode-follower and, thence, to a meterage circuit. The meter circuit employs two galvanometers, one of which reads the amplitude and the other the duration of a pulse. The reading is on for about 6 ms, after which it is cancelled by means of a phascatron circuit. The instrument is capable of measuring amplitudes up to 200 V and durations from 3 to 30 μ s. The slope of the measured pulses should not exceed 100 V/ μ s and their rise time should be less than 10 μ s. Accuracy of the device is $\pm 5\%$. The paper contains 21 references.

R.S.Sidorkiewicz

2

8/271/63/000/002/008/030
A060/A126

AUTHOR: Hájek, Jaroslav

TITLE: Cathode follower circuit with two electronic tubes

PERIODICAL: Referativnyy zhurnal, Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, no. 2, 1963, 27, abstract 2A170P (Czech. pat. cl. 21e, 30/10; 21 a², 18/08, no. 97995, January 15, 1961)

TEXT: Patent is granted to the circuit of a cathode follower using two tubes connected in series anode-to-cathode (see Figure). The input signal is fed to the grid of the tube T1 and to ground, and the output voltage is taken off between the common junction of the cathode of T1 and the plate of T2, and ground. The plate of T1 is connected in the usual way through a resistor R₁ to a power source. The circuit is distinguished by the connection of an additional resistor R₂ between the junction point of the cathode resistor R₃ and the resistor R₄ in the grid circuit of T2 and the negative pole of the plate supply. The frequency range of the circuit is wider than that using the usual connection. The circuit amplifies a constant signal because of the insertion of R₂ which is

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Cathode follower circuit with two electronic tubes

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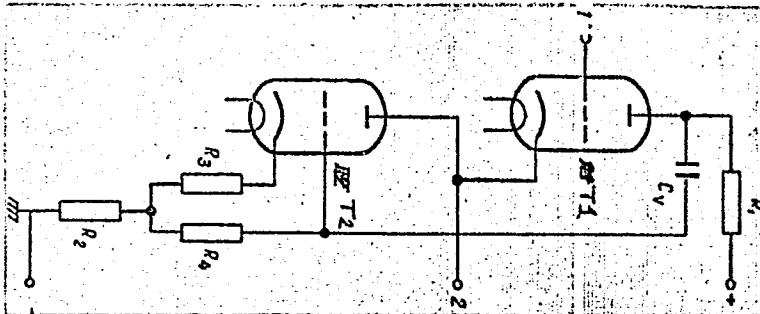
A060/A126

hard to realize under ordinary conditions on account of the great difference of potential between the plate of T1 and the grid of T2. There are 3 figures.

[Abstracter's note: Complete translation]

A. K.

Figure.



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HAJEK, Jaroslav, inz., dr.

One-way network for electrical repetition models. Slaboproudý obzor
22 no. 7:419-423 '61.

1. Ustav pristrojove techniky Ceskoslovenske akademie ved.

(Electronics)

HAJEK, J.

Shortened impedance tensor in the analysis of electric circuits.
El tech cas 13 no. 3:184-187 '62.

HAJEK, Jiri, inz.

"Automation of the heat conditions of industrial furnaces"
by Jindrich Spal. Reviewed by Jiri Hajek. Stroj vyr 12
no.1:70 Ja'64.

AMERICAN ECONOMIC POLICY

Foreign factors in production of industrial activity France.
Buren, Vol. 1, pp. 20, 21, 22, Paris, Univ. of Paris, 1922.

b. Influence of foreign factors on industrial activity Germany,
Prague,

HAJEK, L.

The birefringence method as a means for determining the structure of fibers.

p. 23 (Veda a Vyzkum v Prumyslu Textilnim. No. 1, 1956, Praha, Czechoslovakia)

Monthly Index of East European Accessions (FEAT) I.C. Vol. 7, no. 2,
February 1958

HAJEK, K.

Soil classification according to difficulties in plowing and efficiency standards in plowing. p. 444. (MECHANISACE ZEMEDELSTVI, Vol. 6, No. 23, Dec 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

HAJEK, K.

"Water-management plan for 1950." p.115

VODNI HOSPODARSTVU (Ustredni sprava vodnika hospodarstvi) Praha, Czechoslovakia,
no. 4, April, 1950.

Monthly List of East European Accessions (EEAI) LC, Vol. 8 No. 6, June 1959

Uncl.

KOLAR, Otakar; HAJEK, Karel

Simplified methods for determining the covering power of white pigments and coating paints. Chem prum 13 no.1:41-45 Ja '63.

1. Vyzkumny ustav syntetickych pryskyric a laku, Pardubice.

HASEK, Karel, KOLAR, Oldakar

Simple method for determining the covering capacity of coating
paints. Chem prum 15 no.4;241-242 Ap '65.

1. Research Institute of Synthetic Resins and Lacquers, Pardubice.
Submitted June 1, 1964.

KOLAR, Otakar; HAJEK, Karel

Coloration of white pigments. Chem prum 14 no. 3:
128-132 Mr '64.

1. Research Institute of Synthetic Resins and Lacquers,
Pardubice.

CZECHOSLOVAKIA

HAJEK, Karol [Affiliation not given.]

"Regarding the Relationship of Biology and Philosophy."

Bratislava, Biologia, Vol 18, No 9, 1963; pp 706-710.

Abstract : Starting from Engels and Lenin and their latter-day Soviet commentators and interpreters, author discusses requirements and conditions which would most assuredly benefit biology and derive from these basic materialistic and dialectic principles. Examples: DNA, definition of life, including extraterrestrial life.

1/1

KOLAK, Otakar; HAJEK, Karel

Predetermination of the covering power of white paints. Chem
prum 14 no.7:362-365 J1 '64.

1. Research Institute of Synthetic Resins and Lacquers, Pardubice.

HAJEK, L., ins.

The portable apparatus for respirator control MSD-59. Rudy
10 no.1:30-31 Ja '62.

HAJEK, Lubomir, inz.

Cooperation between the Czechoslovak and Polish rescue teams.
Uhli 7 no.3:100-101 '65.

1. Main Mine Emergency Station, Ostrava - Radvanice.

HAJEK, Ludvik, inz.

Plates. Stroj vyr ll no.8:396-397 Ag '63.

l. Sfinx, n.p., Ceske Budejovice.

HAJEK, Ludvik, inz.

The new in anodic aluminum oxidation. Tech praca J5 no.
6: 445-446 Je '63.

HAJEK, Milan

Current breaker. Elektrotechnik 19 no.2:57 F:64

1. Dopravni sprava narodniho podniku Konstruktiva, Praha.

HÁJEK, Milos, inz.

Finishing panel house internal surfaces without using plaster.
Poz stavby 11 no. 6: 332-334 '63.

1. Vyzkumny ustav stavebni výroby Praha.

HAJEK, Miroslav

Further development of the economic and technical cooperation of socialist countries in textile and leather industries. Tech praca 15 no.3:198-200 Mr '63.

1. Sekretariat Rady vzajemne hospodarske pomoci, Praha.

HUJJK, Miroslav

Cooperation in science and technology of the Council for Mutual Economic Assistance with the view of promoting light industry. Magy textil 16 no. 4:164-166 Ap '64.

I. Hearn, Division of the Light Industry of the Secretariat, Council for Mutual Economic Assistance.

EXCERPTA MEDICA Sec 16 Vol 7/1 Cancer Jan 59

399. *Bilateral cancer of the breast in females* HÁJEK M. Radiol. Clin., Territorial Inst. of Publ. Hlth, Prague. *Neoplasma* 1958, 5 : (77-80) Tables 3

During the 10-year period, May 1945 to May 1955, a total of 820 patients were treated at the Charles University, Prague for malignant breast tumours. Of these there were 800 carcinomas, of which 50 were bilateral. Malignant tumours with contralateral benign lesions were not included. Most contralateral carcinomas were metastases of the primary tumour. The possibility of 2 primary tumours could be admitted in one case only. The various aspects of bilateral breast cancer, as pathogenesis, treatment, disposition (14 of the 50 patients had cancer in their families) etc., are dealt with.

ZEMAN, L.; JOUPA, V.; HAJEK, M.

Anemin in newborn after occult transplacental hemorrhage. Cesk. pediat.
13 no.8:729-731 5 Sept 58.

1. Ustav pro peci o matku a dite v Praze, reditel prof. MUDr. J. Trapl,
vedouci pediatrickeho sektoru prim. MUDr. K. Polacek. L.Z., Praha 2,
Skolska 14.

(ANEMIA, in inf. & child

in newborn, caused by occult transplacental hemorrh. from
fetus to mother (Cz))

(INFANT, NEWBORN, dis.

enemin caused by occult transplacental hemorrh. from fetus
to mother (Cz))

(PREGNANCY, hemorrh.

occult transplacental hemorrh. causing anemia in newborn (Cz))

POLACEK, Karel; HAJEK, Milos

Hemolytic disease of newborn, control of erythrocyte exchange with
the aid of fetal hemoglobin. Cesk.pediat.16 no.3:201-207 Mr '61.

1. Ustav pro peci o matku a dite v Praze-Podoli. Vedouci
pediatrickeho vyzkumu: primar dr. Karel Polacek.
(ERYTHROBLASTOSIS FETAL blood)
(HEMOGLOBIN)
(ERYTHROCYTES)

POLACEK, K.; HAJEK, M.

Haemolytic disease of the newborn control of replacement of the erythrocytes by means of foetal haemoglobin. Rev. Czech. med. 7 no.4: 263-270 '61.

1. Institute for Care of Mother and Child, Prague-Podoli. Director of Paediatric Research: Karel Polacek, M. D.

(ERYTHROBLASTOSIS FETAL ther) (BLOOD TRANSFUSION)
(HEMOGLOBIN)

HAJEK, M.; OPPLT, J.; MISAK, J.; STOLZ, J.

A rare case of testicular teratoma associated with gynecomastia. Cas.
lek.cesk 100 no.36:1133-1138 8 S '61.

1. Chirurgicka klinika LFH KU v Praze, prednosta prof. dr. Emerich
Polak. Oddeleni pro klinickou biochemii LFH KU v Praze, prednosta
primar MUDr. J. Opplt. Katedra patologicke anatomie LFH KU v Praze,
prednosta doc. dr. J. Stolz.

(TESTES neopl) (TERATOID TUMOR compl)
(GYNECOMASTIA compl)

Endocrinology

UDC 616.441-006.04:616.312-008.14

CZECHOSLOVAKIA

MILUNICOVA, A.; HAJEK, M.; Blood Transfusion Station of the Capital City of (Transfuzni Stanice hl. Mesta), Prague, Head (Vedouci) Dr J. KESTAN; Surgical Clinic, Medical Faculty of Hygiene, Charles University (Chirurgicka Klinika Lek. Fak. Hygienicke KU), Prague, Head (Prednosta) Prof Dr E. POLAK.

"PTC Test in Patients with Malignant Goiter."

Prague, Casopis Lekaru Ceskych, Vol 105, No 45, 11 Nov 66, pp 1227 - 1230

Abstract [Authors' English summary modified]: Sensitivity to PTC (phenylthiocarbamide) was tested in a group of 150 patients after they underwent surgery for malignant goiter; in 124 women there was a significant difference between this value and that found in healthy women. In 26 men there was no significant deviation from the values found in healthy men. Investigation of the relationship between ABO groups, the Rh/Kr genotype, and the incidence of malignant goiter showed that the E sign is found frequently in women. 4 Tables, 12 Western, 4 Czech references. (Manuscript received Nov 65).

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¹Additional equipment of tri-metabolic facilities. • 100

JOURNAL OF POLYMER SCIENCE: PART A-1

Geometria

50. *Handbook of Geology and Mineralogy of Minnesota*, Vol. I, Part 1, Geology and Mineralogy.

HAJEK, O.

Singularity of the differential equation. I. p. 551. (POKRODY MATEMATIKY
A ASTRONOMIE, Vol. 1, No. 5/6, 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

HAJEK, O.

Singularity of the differential equation. II. p. 137.
(Pokroky Matematiky, Fysiky A Astronomie, Vol. 2, no. 2, 1957. Praha,
Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

HÁJEK, O.

Hájek, Otomar. Direct decompositions of lattices. I.
~~Czechoslovak Math. J.~~ 7(82) (1957), 1-15. (Russian
summary)

To every neutral (central) element of a lattice L , there corresponds a unique representation of L as a subdirect (direct) product of two lattices. The following results are typical: A homomorphism of a subdirect product L of two lattices corresponding to a neutral element of L can be extended to a homomorphism of the direct product of these factors. If L is a subdirect product of the lattices M_1, M_2 or N_1, N_2 corresponding to neutral elements m and n of L , respectively, then there exist the lattices L_i ($i=1, 2, 3, 4$) with the property that every M_i, N_i is a subdirect product of two suitable lattices L_i , and L is a subdirect product of them all. Similar theorems for rings are given. Some of the results are well-known or are consequences of known results (cf., e.g., Theorem 7).

M. Novotný (Brno).

RB
11

2

L 8290-66

ACC NR: AT5027851

SOURCE CODE: CZ/2503/65/000/011/0045/0050

AUTHOR: Chernyy, V. — Cerny, V.; Fabian, V.; Gayev, O. — Hajek, O.; Pokornyy, Z. — Pokorny, Z.

ORG: Research Institute of Mathematical Machines, Prague (Issledovatel'skiy institut matematicheskikh mashin)

TITLE: A small computer MSP

SOURCE: Ceskoslovenska akademie ved. Vyzkumny ustav matematickych stroju. Stroje na zpracovani informaci, no. 11, 1965, 45-50

TOPIC TAGS: computer, solid state computer, computer design, computer logic, computer circuit

ABSTRACT: The prototype of a small MSP universal decimal computer was built at the Research Institute of Mathematical Machines (Issledovatel'skiy institut matematicheskikh mashin) in Prague and tested by means of simple programs. The computer utilizes the first version of a set of transistorized logic elements developed for the EPOS 2 computer (the set is made of easily available but not fully satisfactory parts). The elements operate with a 1-Mc synchronization pulse frequency. The second unit under study will utilize a new version of the set of elements having an increased reliability. The computer contains approximately 5000 transistors. The electronic components (including the memory) are contained within a 3.5 x 0.5 x 2.5 m cabinet, and consume 1 kw of power. The machine translates the universal

Card 1/2

L 8290-66

ACC NR: AT5027851

ALGOL-60 language into its own machine language. Orig. art. has: 2 formulas.

SUB CODE: DP / SUBM DATE: 29Feb64 / OTH REF: 002

OC
Card 2/2

HAJEK, Petr
The Szasz groupoids. Mat fyz cas SAV 15 no.1:15-42 '65.
1. Institute of Mathematics of the Czechoslovak Academy of
Sciences, Prague. Submitted November 16, 1963.

L 3027-66 EWT(d) IJP(c)

ACCESSION NR: AP5026942

CZ/0045/65/000/001/0015/0042

22

B

AUTHOR: Hajek, Petr (Gayek, Petr)(Prague)

TITLE: Szasz groupoids

SOURCE: Matematicko-fyzikalny casopis, no. 1, 1965, 15-42

TOPIC TAGS: group theory, class theory

ABSTRACT: In this work the principal properties of Szasz groups and a classification is presented of primitive Szasz groupoids of types (aaa), (aab) and (baa). The first form a complete class, and the second and third are classified into 17 classes each. For each class there is a free groupoid and a smallest groupoid, if it exists. In the contrary case, at least two minimal groupoids of the class under consideration are constructed. Orig. art. has: 29 figures, 50 formulas.

ASSOCIATION: Matematicky ustav CSAV, Prague (Institute of Mathematics, CSAV)

SUBMITTED: 16Nov63

ENCL: 00

SUB CODE: MA

NR REF SOV: 001

OTHER: 003

JPRS

Card 1/1 *ml*

HAJEK, S.

Disorders of thermoregulation in burns. Acta chir. plast. 5
no.2:123-128 1963

1. Institute of Forensic Medicine, Medical Faculty, Charles University,
Prague (Czechoslovakia) Director: Doc. S. Hajek, M.D.
(BURNS) (BODY TEMPERATURE REGULATION) (HYPOTHALAMUS)

HAJEK, S.; GREGORA, Z.; STEFAN, J.; KRAL, Z.; CHYBA, J.; RUZICKA, L.;
DOBRKOVSKY, M.; DOLEZALOVA, J.

Analysis of 147 fatal thermic injuries. Acta chir. plast. 5
no.3:193-204 '63.

1. Medical Faculty of Hygiene, Charles University, Prague
(Czechoslovakia) Department of Pathology and Forensic Medicine
Director: Doc. J. Stolz, M.D. Department of Health Organization,
Medical Faculty of Hygiene, Prague Director: Prof. F. Blaha,
M.D. The Burns Unit of the Clinic of Plastic Surgery, Charles
University, Prague Director: Academician F. Burian.

(BURNS) (MORTALITY) (PATHOLOGY)
(ACCIDENT PREVENTION)

HAJEK, S.

"Technical-organizational measures in the secondary metallurgic production."

Hutnik. Praha, Czechoslovakia. Vol. 5, no. 10, Oct. 1955.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Jun 59, Uncles

Hajek, S

Arch Eng

Heating Methods For Use in Hot Pressing of Screws. S.
Hajek. (Czech, 1950, 6, (7), 201-209). (In Czech). Heating
methods and their relative costs are considered. Electro-
resistance or induction heating are most appropriate, par-
ticularly in mechanized mass production procedures.

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820005-2

HAEK, S

STANLEY HAEK, 52, Mechanic
Mechanics, Standard Motor Products Co., Inc.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820005-2"

H A J E K , S.

18

The Properties of Steels for Cold Pressing of Bolts
Hilfss., (Praktik. 1931, 7, (4), 110-193). (Na. Czech.) A
well documented account is given of the effects of short-
comings in the quality of steels, e.g. porosity, slag inclusions,
texture, decarburization etc., on their suitability for cold
pressing of bolts. The principal causes of rejects arising
from inadequacies of the steel are illustrated. It is suggested
that fairly detailed standard specifications relating to the
composition and heat treatments of steels suitable for cold
pressing and cold heading be introduced without delay. — P. P.

9

Re

HAJER, S.

Rapid heating of steel in the forge and in the pickling bath. p. 23⁴.
(HUTNIK, Vol. 7, No. 7, July 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions(EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

had st., 3.

"Introducing High-speed drawing in steelwire drawing plants."

p. 16 (Metalik, Vol. 8, No. 1, January 1958, Bratislava, Czechoslovakia)

Monthly Index of East European Acquisitions (EEAI) 16, Vol. 1, No. 3, September 1958.

HAJEK, Stanislav

Drying of glass pots. Sklar a keramik 14 no. 1: 10 Ja '64.

1. Ploche sklo, zavod Chuderice.

STANISLAV H. HAJEK, Stanislav

Category: Czechoslovakia/Analytical Chemistry - Analysis of organic substances. G-3

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 31108

Author : Hajek Stanislav, Cechova Svatava

Inst : not given

Title : Identification of Minimum Amounts of Blood in Forensic Medicine

Orig Pub: Univ. Carolina Med., 1955, 1, No 1, 33-40

Abstract: For the recovery of the coloring matter of blood from strongly concentrated sic solutions it is proposed to use Al_2O_3 compressed into glass tubes (diameter 0.5, length 4 cm). At the bottom the tubes are closed by corks through which extends a capillary; a layer of cotton wool is inserted between the cork and the Al_2O_3 column. The liquid under investigation is made to flow through the column, the coloring matter of blood, retained in the Al_2O_3 , is transferred to a glass slide and is treated with pyridine, $\text{Na}_2\text{S}_2\text{O}_4$ and KOH, to convert it into hemochromogen, which is then determined by the microspectroscopic method.

Card : 1/2

-18-

HAJKOVA, Zdenka, as., MUDr; HAJEK, Stanislav, as., MUDr

Effect of chrysiotherapy on hemoglobin resistance. Fysiat.vest.,
Praha 33 no.3:101-106 June 55.

1. Fysiatricky a balneologicky ustav Karlovy university v Praze,
prednosta prof. MUDr Frantisek Lenoch. Ustav pro soudni lekarstvi
lekarske fakulty hygienicke Karlovy university v Praze, prednosta
prof. MUDr Edvard Knobloch.

(HEMOGLOBIN
resist., eff. of gold ther.)
(GOLD, effects
on hemoglobin resist.)

Stanislaw Stanislawski, Stanislaw

✓ Forensic diagnosis of the blood of new-borns. Stanislaw
M. Haliček (Lékařská fak. hyg., Prague). Časopis Lékařů
Českých 94, 799-801(1955). Ext. a dried blood spot
with water, reduced by Na hydroxillite, and oxygenate by
shaking with air. Est. hemoglobin, dil the oxyhemoglobin
(1) soln. to 2% with water. Add 1.5 ml. 0.1N KOH to
3 ml. of the blood ext. and observe the mixt. spectro-
scopically until the I bands completely disappear. For
the blood of adult persons, the av. time was 290 sec. (range
210-405 sec.) while for the new-borns 270 min. (range 250-
320 min.). Care must be taken to avoid contamination
with animal blood.

HAJEK-S:

The importance of fetal hemoglobin in ascertaining the age of infants. Stanislav Hájek (Lékařská Fak. Hyg., Prague). Casopis Lékařů Českých 94, 1220-2 (1955).—A blood stain 7-14 days old was extd. with 40 vols. of distd. water. Blood pigment was converted to oxyhemoglobin (I) by shaking with air after hydrosulfite treatment. Conc. of I was measured and the soln. made 2% in respect to I by addn. of water; 1.5 ml. 0.1N KOH was added to 3 ml. of this soln. and placed in the cuvet of a spectroscope. Time between the addn. of KOH and disappearance of I was measured in triplicate. Time of denaturation was 279 min. (standard deviation 17.7) in 25 stains of cord blood, 290 sec. (standard deviation 56.2) in 25 stains of the blood of adults. From 82 blood-stains of infants up to 1 year of age a plot of the results gave a straight line from an av. 279 min. in the newborn to 10 min. longer in the 6th month. The times of denaturation can be used for detg. the age. Errors can ensue from several causes: admixt. of animal or adult blood, immaturity at birth, occurrence of resistant hemoglobins in adults. Results were higher than expected in 4 infants with bronchopneumonia.

I. M. Hals

EXCERPTA MEDICA Sec 7 Vol. 11/8 Pediatrics Ing 57

1958. HÁJEK S. Ústav pro Soudní Lék., Lék. Fak. Hyg. KU, Praha. *Změny alkali-resistence krve u nedonošených kojenců. Changes in the alkali-resistance of the blood in premature infants ČAS. LÉK. ČES. 1956, 95/30 (803-808) Graphs 5 Tables 3

Premature infants can be divided into 2 or even 3 groups according to the level of alkali-resistant haemoglobin in the cord blood and changes in this level following delivery. The first group includes infants in whom the level corresponded approximately to the value found in full-term infants. Shortly after delivery there was an increase in this level followed by a sharp, obviously permanent decrease. It was observed that in this group the return to the birth weight took, on an average, 20 days. The infants in the 2nd group had a considerably higher level at birth. After a short and slight decrease after birth, the level was maintained at the same height until about the end of the 4th week and the subsequent sharp decrease coincided with the decrease in the curve in the first group. In this 2nd group the return to the birth weight lasted on an average 13.5 days. It would appear that the infants in the 3rd group - which were not, however, observed systematically - should be included among full-term infants, as far as the state of alkali-resistant haemoglobin is concerned, although none of them weighed as much as 2,500 g. at birth. In this 3rd group the return to birth weight took an average of 12 days.

(VII, 5)

HAJEK, S., MUDr.

Modification of alkaline resistance of the blood in children
in sudden death. Cas. lek. cesk. 95 no.30:808-809 20 July 56.

1. Ustav pro soudni lekarstvi lek. fak. hygienické KU v Praze,
prednosta prof. MUDr. E. Knobloch.

(DEATH, SUDDEN,

alkaline resist. of hemoglobin in child. in sudden
death (Cz))

(HEMOGLOBIN,

alkaline resist. in child. in sudden death (Cz))

(ACID BASE EQUILIBRIUM,

alkaline resist. of hemoglobin in child. in sudden death
(Cz))

WANTAGE 077415AMY
Mr.
The unphysiological occurrence of resistant hemoglobin
in infant blood. Stanislav Hájek (Ústav součinného lékařství,
LFHKU, Prague). Časopis Českých 96, 107-0 (1987).—While following the rate of degradation of hemo-
globin (I) with NaOH, the presence of resistant I was
demonstrated in blood of infants older than 6 months who
died suddenly. Since resistant I does not occur normally

in infants of such age, it is claimed that this is a pathol.
phenomenon. A. Ženáček

H.A.K.

EXCERPTA MEDICA Soc.7 Vol.12/4 Pediatrics April 53

1065. CHANGES OF ALKALI-RESISTANT HAEMOGLOBIN IN INFANTS WITH WHOOPING COUGH - Změny hladiny alkaliresistentního hemoglobinu u dětí nemocných černým kašlem - Hájek S., Gregora Z., Mílek E. and Kryl R. Úst. pro Soudní Lek. LFHIKU; Klin. Infekčn. Nemoc., Praha. ČAS. LÉK. ČES. 1957, 96/4 (109-113) Graphs 3

Levels of alkali-resistant haemoglobin were determined colorimetrically in 14 infants between 7 and 18 months. Rise and fall of the levels were observed in 3 infants (aged 8, 11 and 18 months), suffering from lung complications; a fall was seen in 6 children and no significant changes in 5. The occurrence of the highest levels was found to coincide with periods of the most severe clinical state.

Havlík - Prague (L, 7)

HAJEK, V.

Studies at higher schools of construction engineering. p. 259.
(POZEMNI STAVBY ,vol. 2, no. 8, Aug. 1954, Praha)

SO: Monthly List of East European Accession, (EEAL), LC, Vol.4,
No. 11, Nov. 1955, Uncl.

KALIK, J.

Mechanization of work on the construction site of the Svatka River dam
near Vir. p. 115.

Vol. 4, no. 5, May 1954
VODNI HOSPODARSTVI
Praga, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 3, August 1956

HAJEK, Vladimir

"Serious deficiencies of Vladimir Hajek and Vojtech Sladecek's handbook Prchaviny a rozneccovadla (Explosives and Detonators)."

Uhli, Praha, Vol 4, No 7, July, 1954, p. 221

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

HAEK, V.

Dynamiting of a railroad overpass near Dobrikov,

P. 3 (of Cover) (Zeleznici Technika) Vol. 5, No. 8, Aug. 1957, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. - VOL. 7, NO. 1, JAN. 1958

HAJDAK, L.

A new important stratigraphic horizon of the lower Ostrava strata.

P. 313. (UHLI.) (Praha, Czechoslovakia) Vol. 7, No. 9, Sept. 1957

SO: Monthly Index of East European Accession (EMAI) LC. Vol. 7, No. 5, 1958

Country : Czechoslovakia E-3
 Category : Analytical Chemistry. Analysis of Organic Substances.
 Abs. Jour. : Ref. Zhur.-Khimiy No. 6, 1959 19181
 Author : Fiker, S.; Hajek, V.
 Institut. :
 Title : Paper Chromatography of Higher Saturated Fatty Acids.

Orig. Pub. : Chem. listy, 1958, 52, No 3, 549-551

Also Published in Collection of Czech. Chem. Comm. Vol. 24 No. 1. 1959

Abstract : A modification of the chromatographic method of Spiteri (RZhKhimBkh, 1955, 6537) has made it possible to secure reproducible values of R_f of saturated fatty acids from C_{12} to C_{34} ; values of R_f depend on quality of paraffin oil used to treat the paper. Whatman paper No 3 is treated with a solution of 5 g paraffin (MP 42-46°) and 5 g paraffin oil (Sp. Gr. 0.900) in 100 ml $CHCl_3 - C_6H_6$ mixture (4:1), and the chromatogram is developed by the ascending method, at 55°, with glacial CH_3COOH saturated with paraffin and with paraffin oil at the same temperature; in this manner are separated the acids from C_{12} to C_{24} . On development at 85°

pp. 216

Card: 1/3

E-41

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617820005-2"

Category :

Abs. Jour. : 19181

Author :
 Institut. :
 Title :

Orig. Pub. :

Abstract : with CH_3COOH saturated with the same substances at 85°, separation is effected of the acids from C_{24} to C_{34} . It is recommended to utilize two-dimensional chromatography and to develop in one direction at 85°, and then in the perpendicular direction at 55°. The mixture of acids can be first extracted with alcohol, thereby separating acids of less than C_{20} , and then carry out chromatography by the two-dimensional procedure, of the alcohol-insoluble mixture of higher acids. Individual acids are detected on the dried chromatograms by the action, for 45 minutes, of a 5% $AgNO_3$ solution at a temperature of 80°, followed by washing with water. After drying of the processed chromatogram at 150°

Card: 2/3

E-42

HAJEK, V.; PRIKRYL, H.

Sinus pericranii -- a diagnostic and methodological contribution. Česk. rentgen. 17 no. 6:399-402 N '63.

1. Vojenska nemocnice v Ruzomberku.
(SCALP) (VASCULAR DISEASES)
(CRANIAL SINUSES) (RADIOGRAPHY)
(INTRACRANIAL PRESSURE) (DIAGNOSIS)

HAJEX, V.

Principles of surgical management and stage treatment of wounds of
abdominal viscera. Voj.zdrav.listy 19 no.11-12:307-310 Nov-Dec 50.
(CLML 20:5)

HAJEK, V.

Gunshot wounds of the thorax; experiences of Soviet medicine
during World War II. Voj. zdrav. listy 20 no.5:248-254
Sept-Oct 1951. (CIML 21:1)

1. Vladimir Hajek, M.D., Colonel, Medical Corps.

HAJEK, V.

Gunshot wounds of the abdomen according to experiences of
Soviet medicine in World War II. Rozhl. chir., Praha 30
no. 10:570-573 1951. (CIML 21:3)

HAJEK, V.

Experience of Soviet medicine with abdominal wounds in World War II,
1941-1945. Rozhl. chir., Praha 30 no.11:603-611 contd. 1951. (CLML 21:4)

HAJEK, V.

Gunshot abdominal wounds according to data of Soviet medicine in
World War II, 1941-5. Roshl. chir., Praha 30 no.12:-- 1951. (CIML 22:1)

HAJEK, Vladimir (Col. MD) (Garrison Hospital in Olomouc)

Author of article, "Soviet Anatomist Prof. V. N. Tonkov Died",
discussing the life and work of the Soviet physician.
(VZL, Jan 55)

SO: Sum. 600, 1 Aug. 1955,

HAAS, Stepan, prof., inz., CSc.; STRADAL, Oldrich, doc., inz.; TOMSIK,
Genek; HAJEK, Vladimir, inz., CSc.

Planning and control of the building industry. Poz stavby
l1 no.l1:573-584 '63.

1. Ceske vysoke ucení technicke, stavebni fakulta (for all
except Tomsik). 2. Reditel narodniho podniku Pozemni stavby
Plzen (for Tomsik).

HAJEK, Vlastimil; MACH, Jiri

Tomography in arthrography of the knee. Rozhl. chir. 36 no.8:525-532
Aug 57.

1. Vojenska nemocnice Ruzomberok.
(KNEE, RADIOGRAPHY
tomography (Cz))

HAJEK, Vlastimil. (Ruzomberok, Matrosova 15.)

Tomoarthrography. Cesk. rentg. 12 no. 3:182-187 Sept 58.

1. Vojenski nemocnice, Ruzomberok.
(JOINTS, radiography
tomography, technic (Cx))

HAJEK, V.

Measurement of the time of skiascopy. Contribution to a lowered dose in radiodiagnosis. Cesk.rentg.15 no.1:37-42 F '61.

1. Rentgenove oddeleni vojenske nemocnice, Ruzomberok.
(RADIOMETRY)

HAJEK, Vlastimil; PRIKRYL, Horymir

Work in 2 relays in a roentgenological department. Cesk. rentg.
15 no.6:401-403 '61.

1. RTG oddeleni nemocnice, Ruzomberok.
(RADIOLOGY)

~HAJEK, V.

The optimum level of examination of subjects occupationally exposed
to ionizing radiations. Cesk. rentgenol. 16 no.2:134-139 Ap '62.

1. Rentgenove oddeleni vojenske nemocnice, Ruzomberok.

(RADIATION PROTECTION)

HAJEK, V.

Observations on excessively high genetic exposure to radiation during roentgen diagnosis. Acta chir. orthop. traum. cech. 31 no.2:163-165 Ap '64.

1. Vojenska nemocnice v Ruzomberku.

CZECHOSLOVAKIA

HÁJEK, V., MD, Military Hospital in Ruzomberok; DAVID, A., MD; and JIRÁSEK, I., MD [affiliation not given].

"Care of Workers Exposed to Ionization Radiation. Criteria for Evaluating Skin Damage Caused by Ionization Radiation"

Prague, Pracovni Lekarstvi, Vol XV, No 4, May 63, pp 170-171.

Abstract: Remarks on an article published in the Vol XIV, No 7 and No 8, 1962, of this periodical.

1/1

APPROVED FOR RELEASE: 09/17/2001ek, CIA-RDP86-00513R000617820005-2"

ZHURAVSKIY, V.; TKACHEV, A.; LUKOVETS, A.

[Socialist Czechoslovakia, 1945-1965] Chekhoslovakija
sotsialisticheskaja, 1945-1965. Moskva, Izd-vo "Pravda,"
1965. 301 p. (MIRA 18:4)

45270

Z/037/62/000/005-6/020/049
E140/E562

45270

AUTHOR: Hájek, Z.

TITLE: Flat field cathode

PERIODICAL: Ceskoslovensky casopis pro fysiku, no.5-6, 1962,
573-578

TEXT: A flat self-emission cathode of the Al-Al₂O₃-Me type was constructed. The conditions necessary for the successful design of such cathodes were found, in particular the properties of the base metal, the treatment of its surface, the properties of the dielectric layer and the upper semi-transmitting metallic layer. The technology of preparation was worked out and some measurements performed which indicate the practical applicability of such cathodes. The results of measuring the emission current and the current into the upper electrode were compared with theoretical estimates which come into consideration for such cathode emission. To eliminate various extraneous effects of previous work, the following conditions were imposed: the dielectric must have a strength exceeding 10⁷ V/cm; electrons must pass through the dielectric without loss of energy; the upper electrode must have high conductivity, and not intercept

Card 1/2

Flat field cathode

4/037/62/000/005-6/020/049
E140/E562

electrons emitted by the base metal. To achieve the conditions on the dielectric, it should have a thickness less than the electron mean free path, i.e. about 10^{-6} cm. Saturation and instability of the automission current were observed, and explained as being due to free oxygen in the dielectric layer. There are 6 figures.

ASSOCIATION: Katedra elektroniky a vakuové fysiky Karlovy university, Praha (Department of Electronics and Vacuum Physics, Charles University, Prague)

Card 2/2